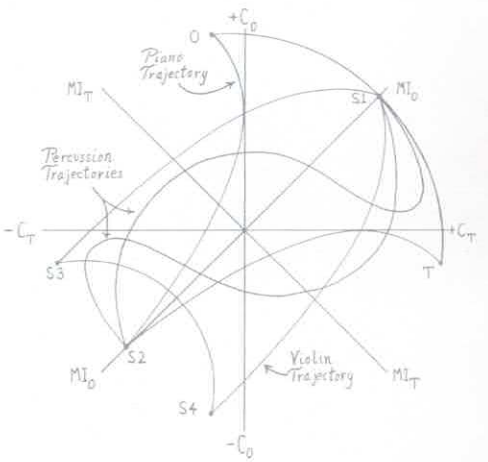
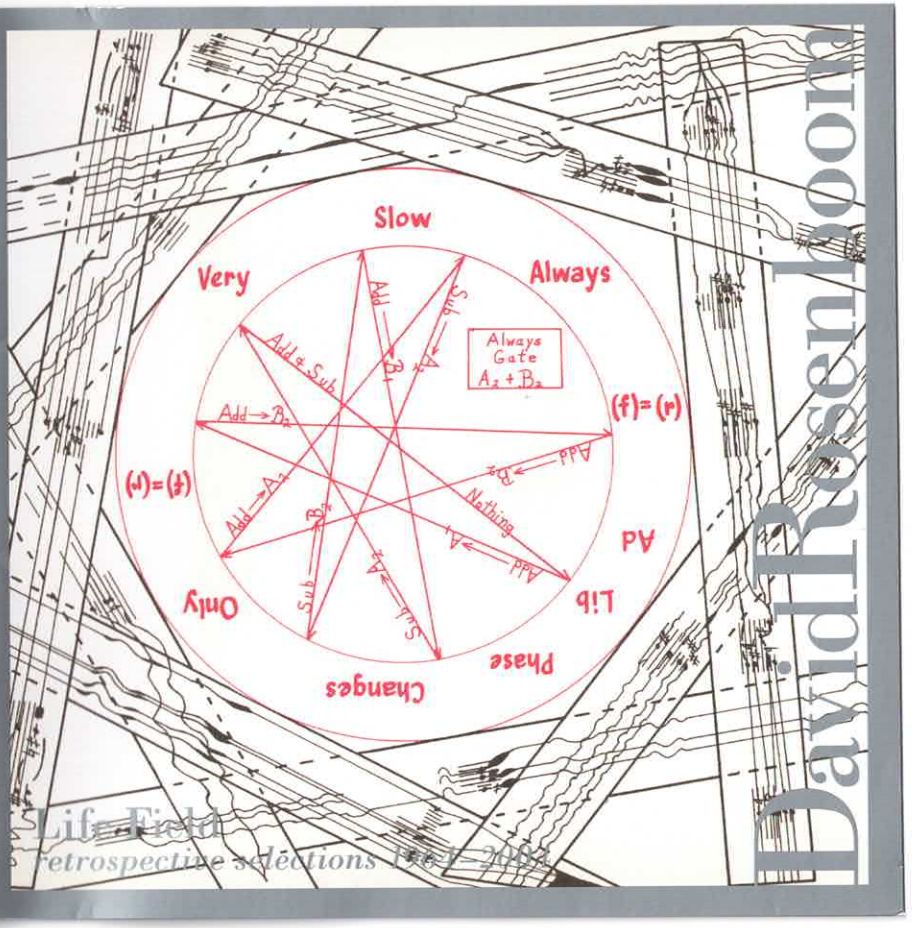




David Rosenboom
Life Field
Retrospective selections 1967–2008

LIFE FIELD

1. CONTINENTAL DIVIDE 1964 *10:53*

DANIEL ROSENBOOM *trumpet* DANIELLE ONDARZA *horn* JAMES MILLER *trombone*
DOUG TORNQUIST *tuba* DAVID ROSENBOOM *piano* WILLIAM WINANT *marimba, vibraphone*
editing assistant DANIEL ROSENBOOM

2–4. POCKET PIECES 1966 *5:33*

i *2:00* ii *1:27* iii *2:06*

CHRISTINE TAVOLACCI *flute* MARK MENZIES *viola* ULRICH KRIEGER *alto sax*
WILLIAM WINANT *percussion* DAVID ROSENBOOM *conductor*

5. AND COME UP DRIPPING 1968 *15:52*

LIBBY VAN CLEVE *oboe* DAVID ROSENBOOM *electronics*
recorded live by JODY ELFF at Engine 27, NYC

6. B.C.–A.D. II 1977 *9:52*

SALVATORE MARTIRANO *salmar construction* DAVID ROSENBOOM *buchla music easel, 200 series electric music box with homemade digital control system*
recorded live by SALVATORE MARTIRANO and DAVID ROSENBOOM at Martirano's studio

7. CHAMP VITAL (LIFE FIELD) 1987 *18:07*

CALIFORNIA E.A.R. UNIT
ERIC CLARK *violin* AMY KNOLES *percussion* VICKI RAY *piano*

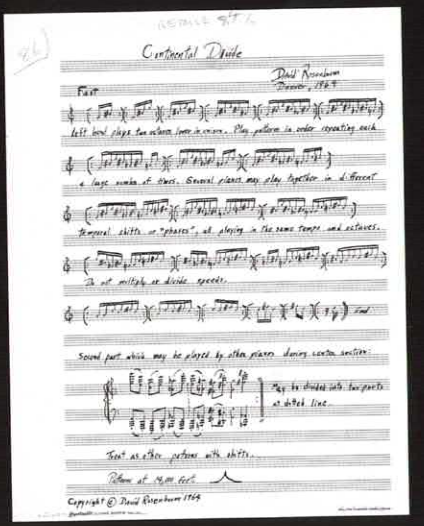
8. PREDICTIONS, CONFIRMATIONS & DISCONFIRMATIONS 1991 *6:31*

J.B. FLOYD, DAVID ROSENBOOM yamaha disklavier pianos, interactive computer systems
recorded live by PAUL GRIFFITH at University of Miami, Coral Gables, FL

9. TWILIGHT LANGUAGE 2004 *11:51*

VICKI RAY *piano*

CONTINENTAL DIVIDE



"How long can I take to resolve a tritone?" Simple musical koans or challenges like this often guided my musical creations from the very beginning. I answered this one, posed to myself in 1964, with *Continental Divide*, the first piece in this intentionally eclectic, retrospective mix. Among the ideas that connect them all are how musical forms can grow from speculative models of evolution, ways of nurturing musical shapes through symbiotic intertwinings in an arboretum of musical vines, roots and branches. From here, tools for growing musical *transformations*—(as opposed to *variations*)—help me place results inside layer-cakes of symbolism in which the import of juxtaposing a B next to an A# rather than a C might weigh in like a pivotal juncture in the dynamics of human history. I invite listeners to explore these musical terrains for what each might cull and lay out in her/his vision of life upon this performative, sonic landscape. Here are a few thoughts on listening.

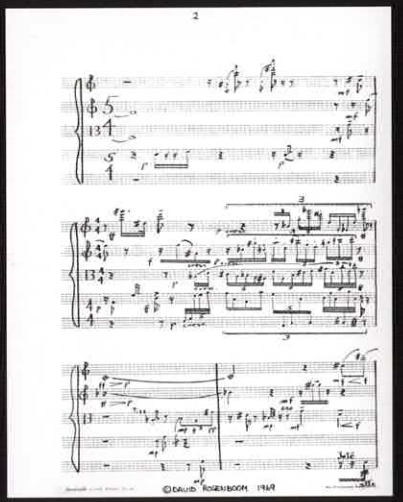
In *Continental Divide—patterns at 14,000 feet*—we might imagine how the history of consonance and dissonance parallels the evolution of Western thought, and how combinatorial rhythms invent relational time, since no absolute time exists. In the 18th century the musical interval known as the tritone was dubbed *diabolus in musica*, the devil in music, a *dangerous* musical interval that must be resolved quickly. In prolonged listening, though, standard rules of harmony are often perceived differently. The tritone divides the octave in half, like the Continental Divide divides the flowing of water to the West and the East. We hear an opening tritone, two-note pattern on G and C# slowly extended, adding one note at a time until a twelve-note pattern is built. Here a fanfare interrupts the flow and announces reaching the peak of the Divide. Then by returning to the pattern and subtracting one note at a time, we gradually emerge from a chromatic tapestry into the sunlight of D-major. In the background, a brass quartet subtly resonates movements of tonalities as patterns evolve—(an idea I added in 2001, when I made an arrangement for chamber orchestra).

While composing in the Rocky Mountains, I was also fascinated by a conundrum in physics regarding whether adequate descriptions of nature must necessarily be complex or simple. Just as the Great Divide portions water flow toward the Mississippi and the Pacific, so this music ascends to the summit by

With members of the great percussion ensemble Nexus at my home in Toronto in 1972. The score for *Continental Divide* is on the floor, and I'm explaining it to Nexus in preparation for an upcoming performance.

continuously growing a pattern and descends by dissolving it. Yet dissolution in this context also means harmonic resolution. The results may be complex, but the scheme for the symbolic musical score is simple, possibly deceptively simple. My music is often inspired by such musings about nature.

POCKET PIECES

Pocket Pieces I, II and III contain early examples of spontaneous brush strokes in stylistic experimentation foretelling dynamic features that emerged in some of my later music. We might also listen to the free placement of tones and gestures in a duodecaphonic (free atonal) lattice. These three short, energetic and subtle movements with flourishing bursts, palindromes, tiny chorales, phantom pointillisms and sonic rushes, were composed in 1966 for musicians at the University of Illinois at Urbana-Champaign during a time when that campus was one of the great centers of contemporary music in the world. Much later, when William Winant revived the score at Mills College in the 1980s, composer Randy McKean wrote, *"This three-movement work is Webern-ish in its clarity and conciseness of expression, but the material is not derived from one particular compositional system. The palindromic structure of the first movement and the use of repetition in the third are examples of an intuitive placing of ideas which create a miniature canvas of distinctly articulated sound events."*

AND COME UP DRIPPING

And Come Up Dripping can be thought of as an experiment in the arising of forms. The score is notated in four large cyclical structures, with no beginnings or endings, but with the idea of continuous renewal. Thus, *"The sun- or sky-god descends to fructify the frozen earth in rain and lightning: there is a period of waiting: then the Young God is discovered in the first bloom of spring."* (From Gilbert Murray's *Forward* to *Thespis: Ritual, Myth, and Drama in the Ancient Near East* by Theodore Gaster, Garden City: Anchor, 1961.)

I found the phrase, *and come up dripping*, in a book of colloquial sayings somewhere—(though it also appears in a passage about machines in a lagoon in Robert Louis Stevenson and Lloyd Osbourne's novella *The Ebb-Tide*, New York: Charles Scribner's Sons, 1913). Here it is meant to evoke an image of new life and musical forms emerging from the primal soup of an underlying, self-organizing complexity, brought by the interactions of simple components. Each musical gesture is extended in time-space to capture percepts in memory that eventually coagulate into the mass of a musical architecture. Graphical symbols provide the initial genetic impulses for sounds to be extended in this way. Complexity then arises from recombinant feedback in which each repeated phrase from the oboe may be modified or mutated in one or a combination of three electronic ways: 1) by increasing the complexity of the oboe waveforms, making them less predictable, 2) by decreasing their complexity, making them more predictable and 3) by *gating*, a process imparting amplitude or loudness shapes to the musical gestures. The score provides a prototype scheme for all this, and the electronics performer is invited to use whatever means are at her/his disposal to make a faithful realization. My intent was to make a score for electronic performance that would avoid technical obsolescence, which would otherwise come inevitably from the ceaseless march of innovation. The score specifies how the electronics performer is to follow the oboist's interpretation of the music, when to turn the various processes on and off, and how to change various temporal parameters to impart rhythm to the electronic gestures. This is all accomplished with only four electronic gestures—known as function shapes—, which when combined with the oboe's musical gestures, also behave as genetic elements in the primal soup. I think of them as gesture or shape *themes*. Each is applied exclusively to one of the four sections in the score, which are further characterized by a particular selection of performance techniques emphasized in the oboe part. The four shapes are: 1) a rising exponential curve, 2) a falling exponential curve, 3) a *bouncing ball function*, like a decaying oscillation and 4) a parabolic arch form, reminiscent of the famous gateway to the West in St. Louis. The oboist is free to choose the ordering of the four main sections and where to begin each one.

With the great light artist, Anthony "Tony" Martin preparing for a 1970 performance in Hartford, Connecticut. Martin is a legendary visual artist known for his innovations in light shows and light art starting in the 1960s. We both contributed greatly to events at The Electric Circus in New York in the late '60s. Photo from *The Hartford Courant*, April 7, 1970

And Come Up Dripping was commissioned in 1968 by oboist Lawrence Singer, known then for his development of extended oboe techniques while working with Italian composer Bruno Bartolotzzi. Singer premiered the work and made an early recording. The score was first published in *Source, Music of the Avant Garde* (Composer/Performer Edition, No. 6, 1969). This new recording resulted from a live performance in 2001 by oboe virtuoso Libby Van Cleve and me held at the Engine 27 performance space in New York. The live recordings from that concert were reprocessed later in my studio. No sound synthesis is involved, only real-time processing of the oboe sounds.

B.C.–A.D. II

B.C.–A.D. II explores improvisation with living composing systems symbolically embodied in circuitry. The great composer-performer Salvatore Martirano (1927–1995) was an influential mentor in my youth and later a frequent collaborator. We inspired each other and explored improvising with musical circuitry over many years. On July 19, 1969, in a concert designed to synchronize with the Apollo 11 Moon landing, we performed in this way for the first time with homemade circuits. Sal suggested we call it *B.C.–A.D.* I've kept that title to refer to later performances together as well. On December 4, 1977, we captured another marathon, live-electronic duet in Sal's studio in Champaign-Urbana, Illinois. An excerpt from that recording is preserved here. Sal played his legendary *SalMar Construction* and I played a collection of electronic music modules, some of which were being driven by homemade digital controls, including a *Music Easel* and *200 Series Electric Music* Box by Donald Buchla. Both instruments became hardware-software embodiments of compositional thinking made available for spontaneous activation.

A rare picture with Martirano (center) and Mary Ashley (right) taken in 1976 in Tampa, Florida where all of us were participating in a festival. *B.C.–A.D. II* with Rosenboom and Martirano was recorded the very next year in 1977. The late Mary Ashley, part of the original Once Group from Ann Arbor, Michigan, was one of the truly great visual, conceptual and performance artists of our time.
Photo by Jacqueline Humbert

CHAMP VITAL (LIFE FIELD)

Champ Vital (Life Field)—Introduction; Themes and Transformations—(written originally for the Abel-Steinberg-Winant Trio in 1987 and vigorously revitalized here by the California E.A.R. Unit)—is again inspired by models of evolution, the morphogenesis and transformation of forms which make up the living universe. I was particularly interested in the ideas of French mathematician-philosopher René Thom and his book, *Structural Stability and Morphogenesis* (Reading, MA: W.A. Benjamin, 1975), in which I found the words *champ vital*, meaning *life field*. They are meant to stimulate our imagining a global *morphogenic field* in which all living phenomena are manifested as individual, connected singularities. As is also the case with gravitational and electromagnetic fields, it is meaningless to ascribe specific qualities to individual entities in the *champ vital*, because they are inseparable. Rather these qualities acquire meaning only as descriptions of dynamically evolving relationships among the entities. Furthermore, the *champ vital* can be imagined to have its own dynamically evolving forms, which emerge from the phenomena of couplings among individuals, and to which we assign our own invented labels, like symbiosis, predation, parasitism, sexuality, bonding, territoriality, aggression and altruism. From this, a particular way of viewing history, evolution and the tensions underlying possible futures for life ensues.

The outer form of *Champ Vital (Life Field)* begins with a freely composed introduction for the violin, marked *"Espressivo, ad libitum, solo intro, like an 'alap,' cadenza"* to evoke a mixture of Indian and Western feelings. A short *Adagio* follows, in which the piano joins with rapid arpeggios to make a *harmonic wind* to accompany a re-composed, hidden but familiar, tune from which the primary theme is constructed. Finally, an *Allegro* exposition of the primary theme unfolds, followed by twenty-six transformations, some of which incorporate the secondary theme, and all of which make extensive use of hocketing—(wherein single musical lines are divided among multiple parts).

At my composing table at home in Piedmont, California (SF Bay Area) in 1979–1980.
Photo by Jacqueline Humbert

In *Champ Vital (Life Field)* the primary musical objects to which compositional attention is given are melody shapes and the contours of other musical parameters. The evolutionary processes appear in the means by which these shapes are transformed, sometimes evolving towards predetermined ends, sometimes branching into surprising territories of musical texture and rhythm. Some of these surprises come from resonances among the interacting results, which can lead naturally to images of harmony. They arise, though, only in the qualities of the emerging field. Only two themes, a smooth and linear primary one and a more disjunctive and pointillist secondary one, form the genesis of almost everything in the composition and contrast each other in their evolutionary trajectories.

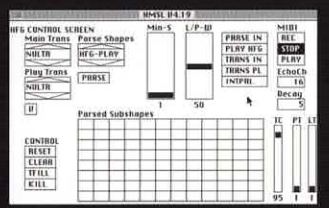
To create these trajectories I passed melodic shapes through what I call *iterative transformation functions*. Essentially, this is a process that bends the shapes progressively, often exaggerating or diminishing particular ups and downs in the melodic rhythms and sometimes adding ornamentations. As new peaks and valleys appear, the shapes may break apart or become reorganized in perception, causing new rhythms and other features to be heard. Though it may seem rather technical, what inspires me about this process is how effectively it can lead to discovering exciting new ways of hearing my source material. I made a book of transformations of the primary theme and then orchestrated my favorite discoveries for the ensemble. A system of harmonic proportions (heard most clearly in piano arpeggios) and Markov chains (conditional probabilities for rhythms) were also used in a few places. Finally, all the results were arranged inside a structural framework that also served as a musical narrative to bind the work together, and which was built during the first stages of composing.

For years, I kept the identity of the hidden melody from which the primary theme is constructed secret. I didn't want to inappropriately bias free listening with political meaning. Perhaps, now it's time to

reveal that a phrase from the chorus of *L'Internationale* is imbedded inside the notes of the first *Allegro* line played by the violin. Though it never appears on the surface, maybe the subtle feeling of this beautiful song—(meant in the sense of its French origin as a ballad of resistance to oppression following the fall of the *Paris Commune* in 1871)—might call attention to the portent of socio-cultural dissolution that we fear might be brought on by the extreme economic disparity of our time. Perhaps the spirit of discovery embodied in active, creative listening might lead to ideas for preserving our *champ vital*.

PREDICTIONS, CONFIRMATIONS & DISCONFIRMATIONS

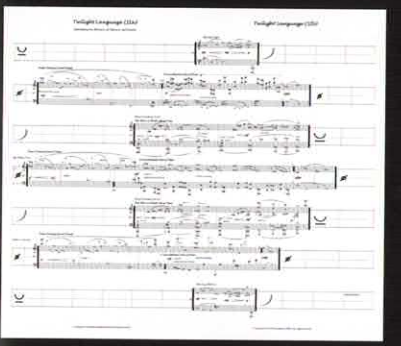
Floyd and I performing *Predictions, Confirmations & Disconfirmations* at the University of Miami on Halloween, October 31, 2004 as the opening event of the International Computer Music Conference. Photo by Pin-I Wu



1991 screen shot from an old Macintosh computer showing a control screen for HFG.

I have always been fascinated by art forms that grow from interactions among multiple entities in what we call *complex adaptive* systems. This includes *composing* frameworks for interaction between performers and intelligent musical instruments, in which the system can be viewed as networks linking the brain and proprioceptive systems of performers and the hardware and software of the musical instruments. Musical tracings then follow the adaptive behaviors of the entities interacting with each other. I refer to this as an example of *propositional music*, in which the act of composing includes proposing models of reality and exploring them by materializing them in music.

Predictions, Confirmations & Disconfirmations is such a propositional framework. Its *composition* resides partially inside a computer program called HFG (Hierarchical Form Generator), which I wrote in 1991. HFG *listens* to unpredictable musical inputs, parses them into what it *predicts* to be perceptually relevant groupings—mimicking the way the brain differentiates phrases, textures and rhythmic patterns—, and stores them. Performers may spontaneously recall—*confirm*—or ignore—*disconfirm*—these groupings and pass them through transformation procedures that make contrapuntal variations. The recall is triggered by performing actions—playing specific notes, dynamics and/or musical gestures—that are mapped across the keyboards as the computer identifies what it *predicts* to be meaningful dividing points—like the end of a phrase and the beginning of another. HFG responds differently to different musical *styles*, and creative musicians can construct forms that evolve naturally in response to the way each one plays. As performers work with memories and transformations of their spontaneously created materials, new musical structures unfold each time. Lots of skill and practice is required to master such a networked instrument. In this example, my long-time collaborator, pianist-composer J.B. Floyd and I materialized this framework through improvisational expansion with computer-controllable pianos (Yamaha Disklaviers). In such an interactive paradigm, the concept of formal artifact becomes superseded by the structure of continuous, imaginative dialogs. The composed framework for interaction *is* the composition.

TWILIGHT LANGUAGE

A magical repository of double meanings, *Sandhyabhasa* (Sanskrit) or *Twilight Language* is the symbolic idiom of the *Eighty-four Siddhas* of Tibet, mystics who, after the Mohammedan invasion of India, are said to have imbedded their knowledge of universal *prima materia* and miraculous powers of transmutation inside a corpus of works appearing mundane on the surface, though ultimately transformational for those able to penetrate principles of unity within themselves. Analogously, the *Twilight Language* score, a printed environment where composer and performer meet in emergent realization, is filled with musical materials carrying multiple meanings. Delineated parts often overlap in their graphic presentation allowing multiple pathways through the material to be discovered in the performer's exploring. Being simultaneously highly structured and flexible, gentle invitations to open interpretation are offered along with opportunities for the performer to imbed her own realizations of a lexicon of symbolic sound images bracketing detailed assemblages of notes, harmonies and forms of time.

Twilight Language—(written for renowned pianist Vicki Ray in 2004 when she was preparing a concert of music related to visual imagery)—contains four distinct parts plus a timeless harmonic form, the *Twilight Language (Theme)*, used to conclude this musical collection. Each part presents a musical *configuration space*, a form of notation in which time does not exist a priori but is *collapsed* by the performer into a particular manifestation for each individual hearing. Each part gives a seed focus for musical meditation and is associated with a specific visual image. The seeds are in the section subtitles: I—*Devotion and Restless Heart Indistinguishable*, II—*Simultaneous Absence of Silence and Sound*, III—*Leaping from Eye of Wildest Imagination* and IV—*Imperishable Jewel of Adamantine Mind*. The visual images for parts I and II are by 10th century, Ch'an (Zen), Chinese painter, Shih K'o, (sometimes also referred to as Shi Ke, Shiz Ge, Shi K'o, or in Japanese, Sekkaku). Shih K'o painted in a manner known as the *"i"* style characterized by wildly free gestures so refined as to inexorably convey fundamental forms of nature.

The first image is of a monk sitting, resting on his right arm perhaps missing his left. A folk story may accompany it. "A young monk Hui Heo went to the most famous Shao Lin (young forest) monastery hoping to follow the monk superior Da Mo, but was refused. He then cut off one arm to prove his devotion. Later Da Mo took him in as a disciple and taught him the secret method of smoothing the heart (or soul, mind) that led him to become the second monk superior." (Story provided by composer Insook Choi.) A dream of an encounter I had with a mountain lion representing essential tension in the universe that must be both contained and free also underlies the score's narrative.

The second painting is variously titled *Patriarchs Harmonizing Their Minds*, *Two Minds in Repose*, *Zen Monk and Tiger*, or other names. (A script in the original ink painting translates word-for-word as, "In the year of Qian De, eighth month, eighth day, drawn by Shiz-Ge of the west Si-Chuan city, the second monk superior smoothing the heart.") A folk interpretation may apply, "A monk captures a tiger to free the villagers." A monk is shown leaning on a tiger; both are asleep. The subjects of both paintings are thought to be superior monks around the time of the Song Dynasty (A.D. 964) in northern China. (There are also stampings of famous people on left side of the painting intended to indicate that, "this painting is seen (enjoyed) by all these kings and people." A prominent, large one is the stamp of a king from the Ching dynasty.)

The image for part III is a pencil drawing by my daughter, Lindsay Claire Rosenboom, showing a tiger leaping from the iris of a large, wide-open eye, the eye of *Wildest Imagination*, and which stunned me when it was presented spontaneously as a gift while I was composing *Twilight Language*.

Finally, part IV is associated with a diagram showing the canonical geometries and proportions of Tibetan Buddha figures. These proportions appear in the musical constructions of *Twilight Language* along with numerical composites of the special number, 84. Each part contains 84 cells or musical thoughts. Notations for *musical units*, entities that stay intact while being ordered in various ways, occupy some cells. Others contain symbols for *surrounding sound space images* drawn from ten states of *nadam*, a type of yoga sound meditation, plus the sound images of the performer's heartbeat and a Tibetan bowl gong.

My musical practice over several decades has emphasized the dynamical poetics of building musical environments for active, creative listening in which musical materials serve metaphorically to articulate the global forms that emerge naturally from poignant dramas underlying the interactions of individual entities. The qualities of these forms may be discovered, discerned and described by all who participate in the interactive musical presentation. The results of such a practice can seem diverse and eclectic in their stylistic natures. These perceived stylistic references, however, are not the result of initial intention, but rather comprise emerging, morphogenic relationships discovered through exploratory listening.

—DAVID ROSENBOOM February 3, 2012

I am deeply indebted to all the extraordinary musical artists who contributed their virtuosity and artistry to make this project possible.

Performing at the Sounds Like Now festival at La Mama Theater, New York in 2004, the same year in which *Twilight Language* was written. Photo ©JACK VARTOOGIAN/FrontRowPhotos

DAVID ROSENBOOM (b. 1947, Fairfield, Iowa) is a composer, performer, interdisciplinary artist, author and educator known as a pioneer in American experimental music. During his long career, he has explored ideas about the spontaneous evolution of musical forms, languages for improvisation, new techniques in scoring for ensembles, multi-disciplinary composition and performance, cross-cultural collaborations, performance art and literature, interactive multi-media and new instrument technologies, generative algorithmic systems, art-science research and philosophy, and extended musical interface with the human nervous system. He holds the Richard Seaver Distinguished Chair in Music at California Institute of the Arts where he is Dean of The Herb Alpert School of Music and serves as a board member of the Center for New Performance. He taught at Mills College from 1979 to 1990 where he held the Darius Milhaud Chair and was Professor of Music, Head of the Music Department and Director of the Center for Contemporary Music. He studied at the University of Illinois, where he was later awarded the George A. Miller Professorship as a visiting artist, and has held positions at the Center for Creative and Performing Arts in the State University of New York at Buffalo, York University in Toronto, Bard College, Simon Fraser University, San Francisco Art Institute, California College of Arts and Crafts, Center for Advanced Musical Studies at Chosen Vale and Ionian University in Greece. His work is widely presented around the world. http://www.davidrosenboom.com/

1964–2004 compositions by DAVID ROSENBOOM, David Rosenboom Publishing, BMI
Pocket Pieces 1977, Seesaw Music Corp.
produced by DAVID ROSENBOOM
executive producer JOHN ZORN associate producer KAZUNORI SUGIYAMA
edited and mixed by DAVID ROSENBOOM principal recording engineer JOHN BAFFA at Dizzy Gillespie Digital Recording Studio in The Herb Alpert School of Music at California Institute of the Arts, Valencia, CA tape archive assistance JOHN MARTIRANO at University of Illinois, Urbana-Champaign, IL tape restoration assistance NICOLA VOSS
mastered by SCOTT HULL obi photo DANIEL ROSENBOOM
inlay photo JACQUELINE HUMBERT design HEUNG-HEUNG CHIN

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